

MODIS TECHNICAL TEAM MEETING

**Building 33, Room H114
May 22, 2000**

Vince Salomonson chaired the MODIS Technical Team Meeting. Present were Bill Barnes, Barbara Conboy, Wayne Esaias, Al Fleig, Bruce Guenther, Dorothy Hall, Steve Kempler, Michael King, Ed Masuoka, Harry Montgomery, Bob Murphy, Bruce Ramsay (NOAA), Skip Reber, Mike Roberto, Eric Vermote, and Paul Westmeyer, with Deborah Howard recording the minutes.

1.0 SCHEDULE OF EVENTS

AGU 2000 Spring Meeting Washington, DC	May 30–June 3, 2000
MODIS Science Team Meeting College Park, MD	June 7–8, 2000
COSPAR 2000 Warsaw, Poland	July 16–23, 2000
COSPAR/IRS Joint Symposium Warsaw, Poland and St. Petersburg, Russia	July 21 and July 24, 2000
IGARSS 2000 Honolulu, HI	July 24–28, 2000
IRS-2000 St. Petersburg, Russia.	July 24–29, 2000
EOS/SPIE Symposium on Remote Sensing Barcelona, Spain	September 25–29, 2000
SPIE's Remote Sensing Japan 2000 Sendai, Japan	October 9–12, 2000
VENICE-2000 (Oceans from Space) Venice, Italy	October 9–13, 2000
PORSEC 2000 Goa, India	December 5–8, 2000
Aqua Launch	December 21, 2000

2.0 MINUTES OF THE MEETING

2.1 Instrument

Paul Westmeyer is heading up a tiger team to examine MODIS issues. He said

that he and John Barker have been looking to augment the team with additional expertise. They have talked with John McCloskey, the Aqua Project Electronics Engineer, about design and design-related issues and with others about PFM. Westmeyer and Barker are talking with Guenther's team and with Esaias. Also, Westmeyer and Minnett plan to discuss MODIS issues.

For Terra-MODIS, Westmeyer said there is some confusion over the difference between 1 digital number (DN) and 1 bit. He suggested that we may need to do some on-orbit reconfigurations between A and B sides to complete calibration. The configuration for MODIS PFM likely is not the best. We do not yet have an alternative configuration. Salomonson mentioned plans for Otis Brown to meet with Ghassem Asrar during the week of the MODIS Science Team (MST) meeting. Salomonson would like the MODIS team to have as much information as possible on MODIS issues by June 6, the date of the MCST Calibration Meeting, the day before the MST meeting.

Westmeyer said the single most important variable is to get a consensus between Santa Barbara and the MODIS team on "what is truth." He said that we would probably reconfigure MODIS based on the MCST assessment.

Vermote asked whether the tiger team is looking at electronic cross-talk and Westmeyer replied they are examining all noise sources. Salomonson asked whether we are looking at an RVS fix as well as focusing on the bin-filling issue. Barnes commented there may be RVS in the visible bands and we cannot measure that on orbit. Salomonson emphasized that getting the best information on MODIS issues by June 6 is a major milestone. Barnes reminded the group that the MCST Calibration Workshop is scheduled for June 6 and Salomonson advised reviewing the MODIS issues during that workshop.

For Aqua-MODIS, Salomonson said that some adjustments likely need to be made. One of the first steps is to change the gain for Bands 31 and 32 to properly do the Sea Surface Temperature (SST). However, the Land Discipline group is not comfortable with that because it may affect Fire/Land products. Salomonson said that due consideration should be given to the Land matters, but we may need to do what is necessary to optimize SST. Salomonson said that he wants to alert George Morrow as soon as possible to adjust Aqua MODIS so that SST will be done right on Aqua.

Guenther said that MCST has put together a proposed resistor change that would double the number of counts from 600 to 1200 for the SST temperature range of interest. Barnes said he would ask whether Santa Barbara could make a simple change to add bilinear gains to the SST Bands to Aqua MODIS and whether this would be as simple/effective as modifying the present linear gain. Later, Guenther added that MODIS SST bands need to be set to a saturation temperature of about 320 K to double the number of counts, rather than the T-sat of 340 K as he suggested at this meeting. The specification for T-sat for Bands 31 and 32 for SST and land-surface temperature shows a T-sat of 324 K.

Westmeyer reported no plans to go into instrument level thermal vacuum.

However, there will be a full-up thermal vac at the spacecraft level.

Westmeyer noted that CERES still very much needs a deep space look as previously planned until the ASTER issue arose. CERES would like reconsideration by the project of the decision to delay the deep-space maneuver.

Roberto mentioned that MODIS FM1 electronic integration tests on the spacecraft had started at TRW. When the instrument was switched to the B side, the spacecraft secondary converter electronics (SCE) module, which is dedicated to MODIS, shut down because of initial inrush over current. The problem was in the design of the SCE. This problem was on the spacecraft power side and not the MODIS side. At this time, it is being determined whether there is an operational workaround to alleviate this problem and provide acceptable margin. If necessary, a hardware modification will be made to limit inrush current.

Montgomery reported that they have received SRCA data, however, their highest priority now is electronic cross-talk.

Guenther said that MCST is scheduling an orbit to collect all the data at night time with additional TDRSS contact so that daytime data is not lost. He said that would be partially over land and partially over the Indian Ocean.

Guenther said that MCST has a list of data product concerns on the MCST Web page. These concerns are listed in the general order of importance as understood by MCST, with most important issues at the beginning of the list. He added that there would be another opportunity to look at the moon in the space view port at about the end of June.

Esaias asked whether the tiger team headed by Westmeyer would have a recommendation by the time of the upcoming MODIS Science Team meeting. Westmeyer said that would be too early. He said that they need to find the optimum mix between cutting down on some of the cross-talk and noise issues at the expense of the number of functioning detectors.

2.2 Metadata Updates

Reber said he understood that 3 weeks were added by the DAAC to expected dates for getting data products from the MODIS Disciplines. However, per a discussion with Mike Moore, Reber learned that 6 to 8 weeks would more likely be added to the Discipline dates. Time 0 is when the DAAC gets all the data they need for the ESDT's and metadata. Reber asked that the MODIS team not change formats at the last minute when tweaking and revising their algorithms. He advised incorporating metadata and ESDT's as a parallel process to save time.

Masuoka remarked that these changes, such as new key words and other metadata come from the science data changes. He said that his team is coordinating with ECS. They are working on fixes to the metadata and ESDT's. Masuoka asked the MODIS team to identify any new/revised metadata fields.

He said that the more important thing that takes 6 to 8 weeks is configuration management issues. For those issues, the DAAC stops production and conducts Science System Integration and Testing (SSI&T) on them. Part of the process that affects timing is how often a new delivery is dropped in the GDAAC. Kempler and Masuoka agreed to examine that process. Reber commented that the minimum time is 1 to 2 weeks because certain steps need to be taken in the operations rather than the test phase at the DAAC.

2.3 GDAAC/EDOS

Kempler reported that the DAAC is again receiving Level 0 data from EDOS. The GDAAC is now 8 to 10 days behind. MODAPS is doing PGE03 to speed up the DAAC's catch-up time. Kempler said that the DAAC receives 86% of L0 data that has been sent down from the spacecraft. Masuoka said that today, May 22, is Day 143. EDOS is about 10 days behind, GDAAC is about 1 day behind EDOS, and MODAPS is another day behind the DAAC. EDOS is behind because of a bit flip problem and sparse production for Days 131 through 133.

Masuoka said that a question for the Science Team is whether to recommend that EDOS fill in data gaps for Days 131 through 133 before going forward from Day 140 and then backfilling at a later date. Masuoka said that is especially important because May was a "golden month" up until Day 131. The Technical Team discussed the issue. Vermote and King agreed that it would be okay to push forward now and then fill in missing data at a later date. Westmeyer asked whether any normal MODIS routines were scheduled that we are falling behind and whether field campaigns are always expedited data sets. Montgomery said that for SRCA his group needs complete data sets for their algorithm and they would like a solid month of data. Hall agreed that her group would like a solid "golden" month. Esaias said the Ocean Discipline group would like a complete month of May and asked what they would do for MOBY data in June. King said that the Atmosphere Discipline group could wait for a complete month of data until August. Vermote commented that Chris Justice would like a whole month of data for May.

Kempler reported that was tracking mission essential and mission critical items to see that those things would be delivered. He said the DAAC would like to hold ECS accountable for these items. He reported that Justice is chairing some meetings to identify the bottlenecks are and whether they could be fixed. Kempler added that we need to understand which equipment needs to be added and/or replaced.

2.4 MODAPS

Masuoka reported that MODAPS added more storage to the file server so that they could store more for NSIDC. He said the GDAAC has about a 3-day window.

Masuoka stated that the L1A subsetter (PGE71) and L1B subsetter (PGE02A), would be folded in to be part of the basic PGE's. As separate PGE's, these subsetters require more Data Processing Requests (DPR's) than the DAAC has available. To produce at the 1X level takes about 1200 DPR's for both Aqua and

Terra together. We will be rolling up the L1B subsetter and the L1B; the PGE would not fail if the subsetter did not work.

Masuoka reminded the MODIS team that we need metadata updates and release dates of products (Ocean products are tied to updates from Miami) from the team. Also, the Disciplines are preparing a product guide. He said that a GLI intern is working at GSFC on geolocation and on subsetting. The intern is shipping data, not software to Japan.

MODAPS is putting in a new matrix for geolocation. It is down from 400 to 250 to 200 meters.

Masuoka said that MODAPS is planning to post a products status chart on the Web so that the MODIS team can check whether changes affect upstream products. This would enable us to locate the data gaps. King commented that this would be for L1B data gaps and that Level 2 would have different gaps.

2.5 EOS Data Products Handbook

King announced that the EOS Data Products Handbook, Volume 2, is going to press soon. MODIS descriptions of data products were submitted before the Terra launched. This is an opportunity for MODIS team members to include a MODIS image with their data product description. Please send MODIS images and updates to Barbara Conboy. Conboy said she would send an e-mail to the Science Team to request prototype and sample images. Renny Greenstone and Claire Parkinson are the editors of this handbook. Masuoka said that some of our products have different names in different documentation. He said he would check on product names and send updates to Conboy.

2.6 MAST

Conboy presented the most recent Draft Agenda for the upcoming MODIS Science Team meeting. The Preliminary Agenda and some other information on the MODIS Science Team meeting has been posted on the MODIS Web Site at: <http://modis.gsfc.nasa.gov/MODIS/> under the "Meetings" section.

2.7 NOAA

Ramsay reported that his talk on NOAA/NESDIS plans to use and evaluate MODIS Snow and Ice Products received a positive reception at the recent Eastern Snow Conference. It was held on May 17-19 in Syracuse, NY, and the conference included representatives of Environment Canada.

3.0 ACTION ITEMS

3.1 New Action Items

1. Conboy: E-mail Science Team Members to request prototype and sample MODIS images related to their data product descriptions to be included in the EOS Data Products Handbook, Volume 2..

Status: After the Technical Team meeting, Conboy e-mailed MODIS Science

Team Members to request MODIS images for their data product descriptions to be included in the EOS Data Products Handbook, Volume 2. Images are due to Barbara Conboy (bconboy@pop900.gsfc.nasa.gov) by noon, May 31, 2000. Conboy will forward the images to Sterling Spangler who will incorporate the images into the handbook.

3.2 Action Items Carried Forward

1. Murphy: Contact Dolly Perkins to assure that the MODIS caveats on Aqua readiness are carried forward to NASA HQ.

Status: This action is open.

2. MODIS Science Team: Send updates on MODIS metadata terms/valids to Skip Reber. These are terms that enable users to search MODIS data. This is part of a request to the Terra Instrument teams to update metadata terms.

Status: This action is open.

3. Discipline Leads: Send feedback to Murphy and Guenther on setting flags for dead (non-functional) detectors while they are set to zero. Currently, MCST would like MODIS Science users to provide feedback on which detectors are dead.

Status: This action is open.

4. Discipline Leads: Send MODIS Data Product table updates to Reber with a copy to Murphy. The MODIS Data Products table is on the Web at: http://eosdatainfo.gsfc.nasa.gov/eosdata/terra/modis/modis_dataprod.html

Status: This action is open.

5. Masuoka: Submit an EOS-PM Data Product Update to ESDIS.

Status: This action item remains open.